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AUTHOR Konhauser, Joseph D. E.; And Others
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ABSTRACT

This book provides a collection of 191 mathematical problems aimed at the advanced high school student level and above. Problems cover general mathematical areas including plane geometry, three-dimensional geometry, number theory, algebra, combinatorics and graph theory, and a number of miscellaneous questions that combine mathematical disciplines. The book is divided into two major sections: the first section contains the problems themselves; the second section contains the solutions, historical and other notes, and auxiliary problems without solutions. Problems range from determining the direction of travel of a bicycle leaving tracks in the mud, to determining if two equal amounts of pizza are cut using eight 45-degree wedges meeting at a point other than the center, to determining if a manufacturer's claim that a certain unusual combination lock allows for thousands of combinations. Contains 175 references. (AIM)

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